Serial Number: 10/040,206A

CRF Processing Date: 10/23/02 #12

Edited by: X

Verified by: X (STIC staff)

☐ Changed a file from non-ASCII to ASCII

☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.

☐ Edited a format error in the Current Application Data section, specifically: ENTERED

_____

☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____.

☐ Added the mandatory heading and subheadings for "Current Application Data".

☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically:

_____

☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:

_____

☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

_____

☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐ Inserted colons after headings/subheadings. Headings edited included:

_____

☒ Deleted extra, invalid, headings used by an applicant, specifically:
In Seq. 5, deleted the word, "Length;" which was extraneous

_____

☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as_____.

☐ Inserted mandatory headings, specifically: _____

☐ Corrected an obvious error in the response, specifically: _____

_____

☐ Edited identifiers where upper case is used but lower case is required, or vice versa.

☐ Corrected an error in the Number of Sequences field, specifically: _____

_____

☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____

☐ Other:

_____

_____

_____

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

OIPE

RAW SEQUENCE LISTING                    DATE: 10/25/2002
PATENT APPLICATION:  US/10/040,206A     TIME: 10:44:24

   Input Set : **A:\PTO.DC.txt**
   Output Set: **N:\CRF4\10252002\J040206A.raw**

```
  3  <110> APPLICANT: Lingappa, Jaisri
  4         Lingappa, Vishwanath
  6  <120> TITLE OF INVENTION: HIV Capsid Assembly Associated Compositions and Methods
  8  <130> FILE REFERENCE: UCSF.002.01US
 10  <140> CURRENT APPLICATION NUMBER: US 10/040,206A
 11  <141> CURRENT FILING DATE: 2002-01-02
 13  <150> PRIOR APPLICATION NUMBER: US 60/039,309
 14  <151> PRIOR FILING DATE: 1997-02-07
 16  <150> PRIOR APPLICATION NUMBER: US 09/020,144
 17  <151> PRIOR FILING DATE: 1998-02-06
 19  <160> NUMBER OF SEQ ID NOS: 6
 21  <210> SEQ ID NO: 1
 22  <211> LENGTH: 1610
 23  <212> TYPE: DNA
 24  <213> ORGANISM: HIV
 26  <220> FEATURE:
 27  <223> OTHER INFORMATION: DNA coding sequence for HIV capsid protein Pr55
 29  <400> SEQUENCE: 1
C--> 31  atgggtgcga gagcgtcggt attaagcggg ggagaattag ataaatggga aaaaattcgg    60
 32  ttaaggccag ggggaaagaa aaaatataag ttaaaacata tagtatgggc aagcagggag   120
 33  ctagaacgat tcgcagtcaa tcctggcctg ttagaaacat cagaaggctg cagacaaata   180
 34  ttgggacagc tacagccatc ccttcagaca ggatcagaag aacttagatc attatataat   240
 35  acagtagcaa ccctctattg tgtacatcaa aggatagatg taaaagacac caaggaagct   300
 36  ttagagaaga tagaggaaga gcaaaacaaa agtaagaaaa aggcacagca agcagcagct   360
 37  gcagctggca caggaaacag cagccaggtc agccaaaatt accctatagt gcagaaccta   420
 38  caggggcaaa tggtacatca ggccatatca cctagaactt taaatgcatg ggtaaaagta   480
 39  gtagaagaaa aggctttcag cccagaagta atacccatgt tttcagcatt atcagaagga   540
 40  gccacccac aagatttaaa caccatgcta aacacagtgg ggggacatca agcagccatg   600
 41  caaatgttaa aagagactat caatgaggaa gctgcagaat gggatagagt gcatccagtg   660
 42  catgcagggc ctattgcacc aggccaaatg agagaaccaa ggggaagtga catagcagga   720
 43  actactagta cccttcagga acaaatagga tggatgacaa ataatccacc tatcccagta   780
 44  ggagaaatct ataaaagatg gataatcctg ggattaaata aaatagtaag aatgtatagc   840
 45  cctaccagca ttctggacat aagacaagga ccaaaggaac cctttagaga ttatgtagac   900
 46  cggttctata aaactctaag agccgaacaa gcttcacagg atgtaaaaaa ttggatgaca   960
 47  gaaaccttgt tggtccaaaa tgcaaaccca gattgtaaga ctatttttaaa agcattggga  1020
 48  ccagcagcta cactagaaga aatgatgaca gcatgtcagg gagtgggggg acccggccat  1080
 49  aaagcaagag ttttggctga agccatgagc caagtaacaa atccagctaa cataatgatg  1140
 50  cagagaggca attttaggaa ccaaagaaag actgttaagt gtttcaattg tggcaaagaa  1200
 51  gggcacatag ccaaaaattg cagggcccct aggaaaaagg gctgttggag atgtggaagg  1260
 52  gaaggacacc aaatgaaaga ttgcactgag agacaggcta atttttttagg gaagatctgg  1320
 53  ccttcctaca agggaaggcc agggaatttt cttcagagca gaccagagcc aacagcccca  1380
 54  ccagaagaga gcttcaggtt tggggaggag aaaacaactc cctctcagaa gcaggagccg  1440
 55  atagacaagg aactgtatcc tttaacttcc ctcagatcac tctttggcaa cgacccctcg  1500
```

RAW SEQUENCE LISTING                    DATE: 10/25/2002
PATENT APPLICATION:  US/10/040,206A     TIME: 10:44:24

Input Set : A:\PTO.DC.txt
Output Set: N:\CRF4\10252002\J040206A.raw

```
  56 tcacaataag gatagggggg caactaaagg aagctctatt agatacagga gcagatgata     1560
  57 cagtattaga agaaatgaat ttgccaggaa aatggaaacc aaaaatgata                1610
  59 <210> SEQ ID NO: 2
  60 <211> LENGTH: 24
  61 <212> TYPE: PRT
  62 <213> ORGANISM: Triticum aestivum
  64 <220> FEATURE:
  65 <223> OTHER INFORMATION: peptide fragment of host cell (wheat germ) protein HP68
  67 <400> SEQUENCE: 2
  69  Pro Arg Pro Tyr Leu Asp Val Lys Gln Arg Leu Lys Ala Ala Arg Val
  70  1               5                  10                  15
  71  Ile Arg Ser Leu Leu Arg Ser Asn
  72              20
  74 <210> SEQ ID NO: 3
  75 <211> LENGTH: 44
  76 <212> TYPE: DNA
  77 <213> ORGANISM: Artificial Sequence
  79 <220> FEATURE:
  80 <223> OTHER INFORMATION: Degenerate oligonucleotide C-terminal peptide sequence of
WGHP68
  82 <400> SEQUENCE: 3
C--> 84 atgaattcac tgggactgcg gatagattac tggtactggg gatc  44
  86 <210> SEQ ID NO: 4
  87 <211> LENGTH: 42
  88 <212> TYPE: DNA
  89 <213> ORGANISM: Artificial Sequence
  91 <220> FEATURE:
  92 <223> OTHER INFORMATION: Degenerate oligonucleotide C-terminal peptide sequence of
WGHP68
  94 <400> SEQUENCE: 4
C--> 96 atgaattcac tgggctctga tagattactg gtactgggga tc  42
  98 <210> SEQ ID NO: 5
  99 <211> LENGTH: 604
 100 <212> TYPE: PRT
 101 <213> ORGANISM: Triticum aestivum
 103 <400> SEQUENCE: 5
 105 Met Ala Asp Arg Leu Thr Arg Ile Ala Ile Val Ser Glu Asp Lys Cys
 106 1               5                  10                  15
 107 Lys Pro Lys Lys Cys Arg Gln Glu Cys Lys Lys Ser Cys Pro Val Val
 108             20                  25                  30
 109 Lys Thr Gly Lys Leu Cys Ile Glu Val Ser Pro Val Ala Lys Leu Ala
 110         35                  40                  45
 111 Phe Ile Ser Glu Glu Leu Cys Ile Gly Cys Gly Ile Cys Val Lys Lys
 112     50                  55                  60
 113 Cys Pro Phe Asp Ala Ile Glu Ile Ile Asn Leu Pro Lys Asp Leu Glu
 114 65                  70                  75                  80
 115 Lys Asp Thr Thr His Arg Tyr Gly Pro Asn Thr Phe Lys Leu His Arg
 116             85                  90                  95
 117 Leu Pro Val Pro Arg Pro Gly Gln Val Leu Gly Leu Val Gly Thr Asn
 118             100                 105                 110
 119 Gly Ile Gly Lys Ser Thr Ala Leu Lys Val Leu Ala Gly Lys Leu Lys
```

RAW SEQUENCE LISTING                    DATE: 10/25/2002
PATENT APPLICATION:  US/10/040,206A     TIME: 10:44:24

Input Set : A:\PTO.DC.txt
Output Set: N:\CRF4\10252002\J040206A.raw

```
120           115                   120                   125
121 Pro Asn Leu Gly Arg Phe Lys Asn Pro Pro Asp Trp Gln Glu Ile Leu
122     130                   135                   140
123 Thr Tyr Phe Arg Gly Ser Glu Leu Gln Asn Tyr Phe Thr Arg Ile Leu
124 145                   150                   155                   160
125 Glu Asp Asn Leu Lys Ala Ile Ile Lys Pro Gln Tyr Val Asp His Ile
126                   165                   170                   175
127 Pro Lys Ala Val Gln Gly Asn Val Gly Gln Val Leu Glu Gln Lys Asp
128                   180                   185                   190
129 Glu Arg Asp Met Lys Asn Glu Leu Cys Val Asp Leu Glu Leu Asn Gln
130             195                   200   ·               205
131 Val Ile Asp Arg Asn Val Gly Asp Leu Ser Gly Gly Glu Leu Gln Arg
132     ·210                   215                   220
133 Phe Ala Ile Ala Val Val Ala Val Gln Ser Ala Glu Ile Tyr Met Phe
134 225                   230                   235                   240
135 Asp Glu Pro Ser Ser Tyr Leu Asp Val Lys Gln Arg Leu Lys Ala Ala
136                   245                   250                   255
137 Arg Val Ile Arg Ser Leu Leu Arg Ser Asn Ser Tyr Val Ile Val Val
138             260.                  265                   270
139 Glu His Asp Leu Ser Val Leu Asp Tyr Leu Ser Asp Phe Ile Cys Cys
140             275                   280                   285
141 Leu Tyr Gly Lys Pro Gly Ala Tyr Gly Val Val Thr Leu Pro Phe Ser
142     290                   295                   300
143 Val Arg Glu Gly Ile Asn Ile Phe Leu Ala Gly Phe Val Pro Thr Glu
144 305                   310                   315                   320
145 Asn Leu Arg Phe Arg Asp Glu Ser Leu Thr Phe Lys Ile Ala Glu Thr
146             325                   330                   335
147 Gln Glu Ser Ala Glu Glu Val Ala Thr Tyr Gln Arg Tyr Lys Tyr Pro
148             340                   345                   350
149 Thr Met Ser Lys Thr Gln Gly Asn Phe Lys Leu Ser Val Val Glu Gly
150             355                   360                   365
151 Glu Phe Thr Asp Ser Gln Ile Val Val Met Leu Gly Glu Asn Gly Thr
152     370                   375                   380
153 Gly Lys Thr Thr Phe Ile Arg Met Leu Ala Gly Leu Leu Lys Pro Asp
154 385                   390                   395                   400
155 Thr Met Glu Gly Thr Glu Val Glu Ile Pro Glu Phe Asn Val Ser Tyr
156             405                   410                   415
157 Lys Pro Gln Lys Ile Ser Pro Lys Phe Gln His Pro Val Arg His Leu
158             420                   425                   430
159 Leu His Ser Lys Ile Arg Asp Ser Tyr Thr His Pro Gln Phe Val Ser
160             435                   440                   445
161 Asp Val Met Lys Pro Leu Gln Ile Glu Gln Leu Met Asp Gln Glu Val
162     450                   455                   460
163 Ile Asn Leu Ser Gly Gly Glu Leu Gln Arg Val Ala Leu Cys Leu Cys
164 465                   470                   475                   480
165 Leu Gly Lys Pro Ala Asp Ile Tyr Leu Ile Asp Glu Pro Ser Ala Tyr
166             485                   490                   495
167 Leu Asp Ser Glu Gln Arg Ile Val Ala Ser Lys Val Ile Lys Arg Phe
168             500                   505                   510
```

```
169 Ile Leu His Ala Lys Lys Thr Ala Phe Ile Val Glu His Asp Phe Ile
170         515             520             525
171 Met Ala Thr Tyr Leu Ala Asp Lys Val Ile Val Tyr Glu Gly Leu Ala
172         530             535             540
173 Ser Ile Asp Cys Thr Ala Asn Ala Pro Gln Ser Leu Val Ser Gly Met
174 545             550             555             560
175 Asn Lys Phe Leu Ser His Leu Asp Ile Thr Phe Arg Arg Asp Pro Thr
176             565             570             575
177 Asn Tyr Arg Pro Arg Ile Asn Lys Leu Glu Ser Thr Lys Asp Arg Glu
178         580             585             590
179 Gln Lys Asn Ala Gly Ser Tyr Tyr Tyr Leu Asp Asp
180         595             600
182 <210> SEQ ID NO: 6
183 <211> LENGTH: 599
184 <212> TYPE: PRT
185 <213> ORGANISM: Homo sapiens
187 <400> SEQUENCE: 6
189 Met Ala Asp Lys Leu Thr Arg Ile Ala Ile Val Asn His Asp Lys Cys
190 1           5               10              15
191 Lys Pro Lys Lys Cys Arg Gln Glu Cys Lys Lys Ser Cys Pro Val Val
192             20              25              30
193 Arg Met Gly Lys Leu Cys Ile Glu Val Thr Pro Gln Ser Lys Ile Ala
194         35              40              45
195 Trp Ile Ser Glu Thr Leu Cys Ile Gly Cys Gly Ile Cys Ile Lys Lys
196     50              55              60
197 Cys Pro Phe Gly Ala Leu Ser Ile Val Asn Leu Pro Ser Asn Leu Glu
198 65              70              75              80
199 Lys Glu Thr Thr His Arg Tyr Cys Ala Asn Ala Phe Lys Leu His Arg
200             85              90              95
201 Leu Pro Ile Pro Arg Pro Gly Glu Val Leu Gly Leu Val Gly Thr Asn
202         100             105             110
203 Gly Ile Gly Lys Ser Ala Ala Leu Lys Ile Leu Ala Gly Lys Gln Lys
204         115             120             125
205 Pro Asn Leu Gly Lys Tyr Asp Asp Pro Pro Asp Trp Gln Glu Ile Leu
206 130             135             140
207 Thr Tyr Phe Arg Gly Ser Glu Leu Gln Asn Tyr Phe Thr Lys Ile Leu
208 145             150             155             160
209 Glu Asp Asp Leu Lys Ala Ile Ile Lys Pro Gln Tyr Val Ala Arg Phe
210             165             170             175
211 Leu Arg Leu Ala Lys Gly Thr Val Gly Ser Ile Leu Asp Arg Lys Asp
212         180             185             190
213 Glu Thr Lys Thr Gln Ala Ile Val Cys Gln Gln Leu Asp Leu Thr His
214         195             200             205
215 Leu Lys Glu Arg Asn Val Glu Asp Leu Ser Gly Gly Glu Leu Gln Arg
216     210             215             220
217 Phe Ala Cys Ala Val Val Cys Ile Gln Lys Ala Asp Ile Phe Met Phe
218 225             230             235             240
219 Asp Glu Pro Ser Ser Tyr Leu Asp Val Lys Gln Arg Leu Lys Ala Ala
220             245             250             255
```

RAW SEQUENCE LISTING                    DATE: 10/25/2002
PATENT APPLICATION:   US/10/040,206A    TIME: 10:44:24

Input Set : A:\PTO.DC.txt
Output Set: N:\CRF4\10252002\J040206A.raw

```
221 Ile Thr Ile Arg Ser Leu Ile Asn Pro Asp Arg Tyr Ile Ile Val Val
222          260             265         270
223 Glu His Asp Leu Ser Val Leu Asp Tyr Leu Ser Asp Phe Ile Cys Cys
224          275             280             285
225 Leu Tyr Gly Val Pro Ser Ala Tyr Gly Val Val Thr Met Pro Phe Ser
226          290         295             300
227 Val Arg Glu Gly Ile Asn Ile Phe Leu Asp Gly Tyr Val Pro Thr Glu
228 305             310             315                 320
229 Asn Leu Arg Phe Arg Asp Ala Ser Leu Val Phe Lys Val Ala Glu Thr
230              325             330             335
231 Ala Asn Glu Glu Glu Val Lys Lys Met Cys Met Tyr Lys Tyr Pro Gly
232          340             345             350
233 Met Lys Lys Lys Met Gly Glu Phe Glu Leu Ala Ile Val Ala Gly Glu
234          355             360             365
235 Phe Thr Asp Ser Glu Ile Met Val Met Leu Gly Glu Asn Gly Thr Gly
236          370             375             380
237 Lys Thr Thr Phe Ile Arg Met Leu Ala Gly Arg Leu Lys Pro Asp Glu
238 385             390             395                 400
239 Gly Gly Glu Val Pro Val Leu Asn Val Ser Tyr Lys Pro Gln Lys Ile
240              405             410             415
241 Ser Pro Lys Ser Thr Gly Ser Val Arg Gln Leu Leu His Glu Lys Ile
242          420             425             430
243 Arg Asp Ala Tyr Thr His Pro Gln Phe Val Thr Asp Val Met Lys Pro
244          435             440             445
245 Leu Gln Ile Glu Asn Ile Ile Asp Gln Glu Val Gln Thr Leu Ser Gly
246          450             455             460
247 Gly Glu Leu Gln Arg Val Arg Leu Arg Leu Cys Leu Gly Lys Pro Ala
248 465             470             475                 480
249 Asp Val Tyr Leu Ile Asp Glu Pro Ser Ala Tyr Leu Asp Ser Glu Gln
250              485             490             495
251 Arg Leu Met Ala Ala Arg Val Val Lys Arg Phe Ile Leu His Ala Lys
252          500             505             510
253 Lys Thr Ala Phe Val Val Glu His Asp Phe Ile Met Ala Thr Tyr Leu
254          515             520             525
255 Ala Asp Arg Val Ile Val Phe Asp Gly Val Pro Ser Lys Asn Thr Val
256          530             535             540
257 Ala Asn Ser Pro Gln Thr Leu Leu Ala Gly Met Asn Lys Phe Leu Ser
258 545             550             555                 560
259 Gln Leu Glu Ile Thr Phe Arg Arg Asp Pro Asn Asn Tyr Arg Pro Arg
260              565             570             575
261 Ile Asn Lys Leu Asn Ser Ile Lys Asp Val Glu Gln Lys Lys Ser Gly
262          580             585             590
263 Asn Tyr Phe Phe Leu Asp Asp
264          595
```

**VERIFICATION SUMMARY**                    DATE: 10/25/2002
PATENT APPLICATION:  **US/10/040,206A**        TIME: 10:44:25

        Input Set : **A:\PTO.DC.txt**
        Output Set: **N:\CRF4\10252002\J040206A.raw**

.L:31 M:112 C: (48) String data converted to lower case,
M:112 Repeated in SeqNo=1
L:84 M:112 C: (48) String data converted to lower case,
L:96 M:112 C: (48) String data converted to lower case,

OIPE

**Does Not Comply
Corrected Diskette Needed**

```
           RAW SEQUENCE LISTING                 DATE: 10/17/2002
           PATENT APPLICATION:  US/10/040,206A  TIME: 11:36:52

           Input Set : A:\seqlist.txt
           Output Set: N:\CRF4\10172002\J040206A.raw
```

```
  3 <110> APPLICANT: Lingappa, Jaisri
  4         Lingappa, Vishwanath
  6 <120> TITLE OF INVENTION: HIV Capsid Assembly Associated Compositions and Methods
  8 <130> FILE REFERENCE: UCSF.002.01US
 10 <140> CURRENT APPLICATION NUMBER: US 10/040,206A
 11 <141> CURRENT FILING DATE: 2002-01-02
 13 <150> PRIOR APPLICATION NUMBER: US 60/039,309
 14 <151> PRIOR FILING DATE: 1997-02-07
 16 <150> PRIOR APPLICATION NUMBER: US 09/020,144
 17 <151> PRIOR FILING DATE: 1998-02-06
 19 <160> NUMBER OF SEQ ID NOS: 6
```

**ERRORED SEQUENCES**

*delete*

```
 98 <210> SEQ ID NO: 5
 99 <211> LENGTH: (Length)604
100 <212> TYPE: PRT
101 <213> ORGANISM: Triticum aestivum
103 <400> SEQUENCE: 5
105 Met Ala Asp Arg Leu Thr Arg Ile Ala Ile Val Ser Glu Asp Lys Cys
106 1                   5                   10                  15
107 Lys Pro Lys Lys Cys Arg Gln Glu Cys Lys Lys Ser Cys Pro Val Val
108             20                  25                  30
109 Lys Thr Gly Lys Leu Cys Ile Glu Val Ser Pro Val Ala Lys Leu Ala
110         35                  40                  45
111 Phe Ile Ser Glu Glu Leu Cys Ile Gly Cys Gly Ile Cys Val Lys Lys
112     50                  55                  60
113 Cys Pro Phe Asp Ala Ile Glu Ile Ile Asn Leu Pro Lys Asp Leu Glu
114 65                  70                  75                  80
115 Lys Asp Thr Thr His Arg Tyr Gly Pro Asn Thr Phe Lys Leu His Arg
116             85                  90                  95
117 Leu Pro Val Pro Arg Pro Gly Gln Val Leu Gly Leu Val Gly Thr Asn
118             100                 105                 110
119 Gly Ile Gly Lys Ser Thr Ala Leu Lys Val Leu Ala Gly Lys Leu Lys
120         115                 120                 125
121 Pro Asn Leu Gly Arg Phe Lys Asn Pro Pro Asp Trp Gln Glu Ile Leu
122     130                 135                 140
123 Thr Tyr Phe Arg Gly Ser Glu Leu Gln Asn Tyr Phe Thr Arg Ile Leu
124 145                 150                 155                 160
125 Glu Asp Asn Leu Lys Ala Ile Ile Lys Pro Gln Tyr Val Asp His Ile
126             165                 170                 175
127 Pro Lys Ala Val Gln Gly Asn Val Gly Gln Val Leu Glu Gln Lys Asp
```

RAW SEQUENCE LISTING                      DATE: 10/17/2002
PATENT APPLICATION:  US/10/040,206A       TIME: 11:36:52

Input Set : A:\seqlist.txt
Output Set: N:\CRF4\10172002\J040206A.raw

```
128           180              185              190
129 Glu Arg Asp Met Lys Asn Glu Leu Cys Val Asp Leu Glu Leu Asn Gln
130       195              200              205
131 Val Ile Asp Arg Asn Val Gly Asp Leu Ser Gly Gly Glu Leu Gln Arg
132       210              215              220
133 Phe Ala Ile Ala Val Val Ala Val Gln Ser Ala Glu Ile Tyr Met Phe
134 225              230              235              240
135 Asp Glu Pro Ser Ser Tyr Leu Asp Val Lys Gln Arg Leu Lys Ala Ala
136              245              250              255
137 Arg Val Ile Arg Ser Leu Leu Arg Ser Asn Ser Tyr Val Ile Val Val
138              260              265              270
139 Glu His Asp Leu Ser Val Leu Asp Tyr Leu Ser Asp Phe Ile Cys Cys
140       275              280              285
141 Leu Tyr Gly Lys Pro Gly Ala Tyr Gly Val Val Thr Leu Pro Phe Ser
142       290              295              300
143 Val Arg Glu Gly Ile Asn Ile Phe Leu Ala Gly Phe Val Pro Thr Glu
144 305              310              315              320
145 Asn Leu Arg Phe Arg Asp Glu Ser Leu Thr Phe Lys Ile Ala Glu Thr
146              325              330              335
147 Gln Glu Ser Ala Glu Glu Val Ala Thr Tyr Gln Arg Tyr Lys Tyr Pro
148              340              345              350
149 Thr Met Ser Lys Thr Gln Gly Asn Phe Lys Leu Ser Val Val Glu Gly
150       355              360              365
151 Glu Phe Thr Asp Ser Gln Ile Val Val Met Leu Gly Glu Asn Gly Thr
152       370              375              380
153 Gly Lys Thr Thr Phe Ile Arg Met Leu Ala Gly Leu Leu Lys Pro Asp
154 385              390              395              400
155 Thr Met Glu Gly Thr Glu Val Glu Ile Pro Glu Phe Asn Val Ser Tyr
156              405              410              415
157 Lys Pro Gln Lys Ile Ser Pro Lys Phe Gln His Pro Val Arg His Leu
158       420              425              430
159 Leu His Ser Lys Ile Arg Asp Ser Tyr Thr His Pro Gln Phe Val Ser
160       435              440              445
161 Asp Val Met Lys Pro Leu Gln Ile Glu Gln Leu Met Asp Gln Glu Val
162       450              455              460
163 Ile Asn Leu Ser Gly Gly Glu Leu Gln Arg Val Ala Leu Cys Leu Cys
164 465              470              475              480
165 Leu Gly Lys Pro Ala Asp Ile Tyr Leu Ile Asp Glu Pro Ser Ala Tyr
166              485              490              495
167 Leu Asp Ser Glu Gln Arg Ile Val Ala Ser Lys Val Ile Lys Arg Phe
168              500              505              510
169 Ile Leu His Ala Lys Lys Thr Ala Phe Ile Val Glu His Asp Phe Ile
170       515              520              525
171 Met Ala Thr Tyr Leu Ala Asp Lys Val Ile Val Tyr Glu Gly Leu Ala
172       530              535              540
173 Ser Ile Asp Cys Thr Ala Asn Ala Pro Gln Ser Leu Val Ser Gly Met
174 545              550              555              560
175 Asn Lys Phe Leu Ser His Leu Asp Ile Thr Phe Arg Arg Asp Pro Thr
176              565              570              575
```

RAW SEQUENCE LISTING
PATENT APPLICATION:  US/10/040,206A

DATE: 10/17/2002
TIME: 11:36:52

Input Set : **A:\seqlist.txt**
Output Set: **N:\CRF4\10172002\J040206A.raw**

```
     177 Asn Tyr Arg Pro Arg Ile Asn Lys Leu Glu Ser Thr Lys Asp Arg Glu
     178             580             585             590
     179 Gln Lys Asn Ala Gly Ser Tyr Tyr Tyr Leu Asp Asp
E--> 180         595             600
```

**VERIFICATION SUMMARY**　　　　　　　DATE: 10/17/2002
PATENT APPLICATION:　US/10/040,206A　　TIME: 11:36:53

Input Set : **A:\seqlist.txt**
Output Set: **N:\CRF4\10172002\J040206A.raw**

L:31 M:112 C: (48) String data converted to lower case,
M:112 Repeated in SeqNo=1
L:84 M:112 C: (48) String data converted to lower case,
L:96 M:112 C: (48) String data converted to lower case,
L:180 M:252 E: No. of Seq. differs, <211> LENGTH:Input:0 Found:604 SEQ:5